AR 201-12549b19

ROBUST SUMMARY
ALKYL SULFIDE CATETGORY
CAS # 68515-88-8
HEALTH ELEMENTS: ACUTE TOXICITY

Test Substance	
CAS #	CAS# 68515-88-8
Chemical Name	Pentene, 2,4,4-trimethyl-, sulfurized
Remarks	97% purity This chemical is also referred to as trimethyl pentene derivative in the HERTG's Test Plan for Alkyl Sulfide Category. For more information on the chemical, see Section 2.0 "Chemical Description of Alkyl Sulfide Category" in HERTG's Test Plan for Alkyl Sulfide Category.
Method	
Method/Guideline followed	Consistent with EPA Health Effects Guideline OPPTS 870.1300
Test Type	Acute inhalation toxicity
GLP (Y/N)	Y
Year (Study Performed)	1988
Species/Strain	Mouse (CD-1 strain) Guinea pig (Hartley strain)
Sex	Male and female
No. of animals/sex/dose	5
Vehicle	Mineral oil-based material, dosed as supplied
Route of administration	Aerosol inhalation
Dose	4.3 mg/L (limit study)
Remarks field for test conditions	Two groups of five mice/sex and five guinea pigs/sex were exposed for 4 hours to the test material (nominal 5 mg/L) as a liquid droplet aerosol generated by a Laskin nebulizer apparatus delivered into a plexi-glass chamber. Also, control group of mice and guinea pigs was exposed to mineral oil in the same manner as the test-material-exposed group except that the test material was not administrated. The details of the whole body exposure are consistent with those described in EPA Health Effects Guideline OPPTS 870.1300. The actual exposure concentration as measured by gravimetric analysis was 4.3 mg/L. Particle size analyses were performed once/hour from the test material chamber using a cascade impactor. Animal observations for toxicological signs and mortality were recorded every 15 minutes during the exposure, and twice daily for the 14-day observation period. Individual weights were recorded on the day prior to exposure and on days 2, 3, 5, 8 and 14. At the conclusion of the observation period, the surviving animals were euthanized by exsanguination under general anesthesia. All animals were subjected to gross necropsy (nasal passages, trachea, external surface, all orifices, the cranial cavity, the brain and spinal cord, and all viscera).
Results	LC50 (mice) > 4.3 mg/L; LC50 (guinea pigs) > 4.3 mg/L
Remarks	The mass median aerodynamic diameter for the studies was 1.6 microns with a geometric standard deviation of 2.1 (estimated percent of particles < 10 microns = 100%). One female guinea pig was

	euthanized on study day 7 because of a broken leg, an effect thought to be unrelated to the administration to the test material. All other animals survived the duration of the study. Observations noted during the test material exposure included reduced activity and matted coat. Signs exhibited by the test animals upon removal from the chamber and during the two-hour post-exposure observation period on day 1 included matted coat, yellow fur, yellow ano-gentital staining and nasal discharge. The control groups were generally unremarkable during the exposure and immediately thereafter. During week 1, the test mice exhibited few signs other than matted coat. The test guinea pigs exhibited matted coat and ano-genital staining. During week 2, ano-genital staining was the only remarkable sign in the guinea pigs. No significant difference was noted between the test and control group weights for either species. No gross lesions that could be attributable to the test material were observed in any of the mice or guinea pigs.
Conclusions	Ten of ten CD-1 mice and ten of ten Hartley guinea pigs received a single four-hour whole-body exposure to 4.3 mg/L test material as a respirable aerosol. All animals survived the exposure and the 14-day post-exposure observation period with the exception of a single guinea pig that was euthanized for a broken limb. Signs of treatment included reduced activity and matted coat during the exposure. The treated animals were generally comparable to air-only control animals during the observation period. Body weight values and gross post mortem observations were generally unremarkable for differences between control and treated animals of either species.
Data Quality	Reliable without restriction (Klimisch Code)
References	This robust summary was prepared from an unpublished study by an individual member company of the HERTG (the underlying study contains confidential business information).
Other	Updated: 12-27-99